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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Thomas Schiestel

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EXAMINER

ESSEX, STEPHAN J

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

08/31/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,209	Applicant(s) SCHIESTEL, THOMAS	
	Examiner STEPHAN ESSEX	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/15/2006, 8/30/2007, 7/3/2008</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 recites the limitation "the surface matrix" in line 2. There is insufficient antecedent basis for this limitation in the claim. It is unclear whether "the surface matrix refers" to the oleophobic inorganic membrane, or the perfluoroalkyl compound formed as a surface-modification to the oleophobic inorganic membrane, or something else entirely.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1, 4-6 and 9-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Kashino et al. (WO 2003/069709A1; see U.S. Pub No. 2005/0100773A1 for English translation).

Regarding claims 1, 9 and 13, Kashino teaches a liquid fuel cell comprising a fuel tank **3** and a gas-liquid separation hole **6b** (vent) having a detachable gas-liquid

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separation film **6a**. A porous fluorocarbon resin film (inorganic membrane) treated to be oil repellent, or a laminate composite (inorganic membrane), treated to be oil repellent, can be used to form the separation film **6a**. The porous fluorocarbon resin film treated to be oil repellent can be produced by forming on the fluorocarbon resin film a polymer coating film having, most preferably, perfluoroalkyl groups (perfluoroalkyl compound). The gas-liquid separation film **6a** allows for the release of carbon dioxide, etc. generated in the discharge reaction from the fuel tank **3** without leaking liquid fuel **4** (venting system) (see paragraphs 29, 48, 49 and 51; figure 1).

Regarding claims 4-6, the limitations recited therein are considered product-by-process limitations. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (see MPEP § 2113).

Regarding claims 10-12, Kashino is silent to the gas-liquid separation film **6a** being a fuel adsorber, However, it is the position of the examiner that the fuel adsorption properties are inherent, given that the gas-liquid separation film **6a** of Kashino is identical to the perfluoroalkyl surface-modified oleophobic inorganic membrane of the claimed invention. A reference which is silent about a claimed invention’s features is inherently anticipatory if the missing feature is necessarily present in that which is

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described in the reference. Inherency is not established by probabilities or possibilities.

See *In re Robertson*, 49 USPQ2d 1949 (1999).

Regarding claims 14, 15, 17 and 18, Kashino teaches a method of releasing carbon dioxide, etc. generated in the discharge reaction from a fuel tank **3** (vapor-liquid mixture) without leaking liquid fuel **4** (method for separating vapor from liquid), the method comprising providing a separation film **6a** in a separation hole **6b** (tank vent) of the fuel tank **3** wherein the separation film **6a** is a porous fluorocarbon resin film treated to be oil repellent made by forming on a fluorocarbon resin film a polymer coating film having, most preferably, perfluoroalkyl groups (oleophobic membrane surface modified with at least one perfluoroalkyl group) (see paragraphs 29, 48, 49 and 51; figure 1).

Regarding claim 16 and 19, Kashino is silent to a fuel adsorber. However, it is the position of the examiner that fuel adsorption properties of the gas-liquid separation film are inherent, given that the gas-liquid separation film **6a** of Kashino is identical to the perfluoroalkyl surface-modified oleophobic inorganic membrane of the claimed invention. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. Inherency is not established by probabilities or possibilities. See *In re Robertson*, 49 USPQ2d 1949 (1999).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 2, 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Kashino as applied to claims 1, 4-6 and 9-19 above, and further in view of

Kenigsberg et al. (hereinafter "Kenigsberg") (U.S. Pat. No. 5,156,780).

Regarding claims 2, 3 and 8, Kashino teaches gas-transmitting materials such as woven fabric, nonwoven fabric, net and felt used in addition to the porous fluorocarbon resin film discussed above (see paragraph 52), but is silent to the use ceramics or metals. Kashino is silent to hydrophilic components of the porous fluorocarbon resin films, fabrics, nets and felts.

Kenigsberg teaches a substrate (inorganic membrane) treated (surface-modified) to achieve permanent water and oil repellency while the porosity thereof, wherein any porous substrate may be used such as glass, plastic, wood, ceramic and the like (see col. 3, lines 52-54; col. 8, lines 12-38). Many ceramics are porous and naturally hydrophilic. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the substrates of Kenigsberg in place of the fabrics, net and felt of

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Kashino because they are all functional equivalent supporting materials for the gas-liquid separation film. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a metal mesh as suggested by Kenigsberg's "and the like" because metal mesh is inexpensive and demonstrates high workability.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kashino, as applied to claims 1, 4-6 and 9-19 above.

Regarding claim 7, Kashino is silent to the pore size of the gas-liquid separation film 6a. However, the size of a pore is known to affect the volume and rate of flow of fluid through the pore. Pore size is therefore a known result effective variable. It has been held by the courts that discovering an optimum value or workable ranges of a known result-effective variable involves only routine skill in the art, and is thus not novel. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (see MPEP § 2144.05).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHAN ESSEX whose telephone number is (571) 270-7866. The examiner can normally be reached on Monday - Friday, 7:30-5:00 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SJE/

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795